UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,505	07/16/2003	Jack Cassidy	200311036-1	8478

22879 7590 03/30/2010

HEWLETT-PACKARD COMPANY
Intellectual Property Administration
3404 E. Harmony Road
Mail Stop 35
FORT COLLINS, CO 80528

EXAMINER	
DICKERSON, CHAD S	

ART UNIT	PAPER NUMBER
2625	

NOTIFICATION DATE	DELIVERY MODE
03/30/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

JERRY.SHORMA@HP.COM
ipa.mail@hp.com
laura.m.clark@hp.com

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/620,505
Filing Date: July 16, 2003
Appellant(s): CASSIDY ET AL.

Jack H. McKinney
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 1/2/2008 appealing from the Office action mailed 11/1/2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The Examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

2002/0040375	Simon et al	4-2001
2003/0163786	Shields et al	10-2002
6208360	Doi et al	3-1998

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 23-26, 28-31 and 35-40 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Re claims 23, 26 and 31: the claims are towards a seemingly patentable computer readable medium. However, these claims are deemed to be non-statutory since the mere claiming of a computer readable medium with instructions is not a patentable process without a computer being used to realize the functionality of the instructions on the computer readable medium. It is suggested that the applicant modify the claims to ensure that the claim language reflects that the computer readable medium is encoded with instructions that are executed by a computer in order to perform some steps or process. The dependent claims are also rejected.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 3-6, 8-11, 15-17, 23-26, 28-31, 35-37, 43 and 46 are rejected under 35 U.S.C. 102(b) as being anticipated by Simon et al (US Pub No 2002/0040375).

Re claim 3: Simon et al discloses a method of organizing digital images on a page, comprising:

Identifying a set of digital images (i.e. in figure 5, the step 120 allows the images used to be arranged on a page format to be selected manually or automatically; see fig. 5; paragraphs [0049]-[0055]);

identifying a pre-determined print size for each of the digital images in the set (i.e. shown in the illustrated prior art image in figure 2 is a template with the identification of a pre-determined print size for each of the digital images to be used on the template. Since this template is used to identify pre-determined print sizes of pictures, this performs the above feature. Also, when the system employs the method of automatically placing pictures in the layout, the system chooses, or identifies, a certain pre-determined size on the overall layout to be printed. With this pre-determined space, the images chosen have a pre-determined print size and this size is taken into account when placing the images on the overall layout. The print size of the images is used to assist the system in arranging the images in a more aesthetic manner. The images in the system have a pre-determined print size since these images where taken by different sources (i.e. digital camera or scanner) and these different sources define the print size for the images. Therefore, the pre-determined print size feature is performed. The system may then normalize the pictures to take away the left over

white space on the overall layout when these images are placed on the layout; see figs. 1-3; paragraphs [0046]-[0055]);

defining a packing area (i.e. when the format of a page is selected in step 110, this is analogous to defining a packing area. In this step, the height and width of the page is specified in order to define where and within which format the images are to be placed on the page; see fig. 5 and 6; paragraph [0049] and [0050]);

identifying a largest of the predetermined print sizes (i.e. shown in the illustrated prior art image in figure 2 is a template with the identification of a pre-determined print size for each of the digital images to be used on the template. Since this template is utilized to identify pre-determined print sizes of the pictures, this performs the above feature. When the system employs the method of automatically placing pictures in the layout, the system chooses, or identifies a certain pre-determined size on the overall layout to place the picture on the layout to be printed. In the system, an image may be identified as being much larger or smaller than other images. The image that is much larger than the others is considered as the image with the largest pre-determined print size. This image is identified when it is chosen to be placed on the layout and the smallest dimension of the image may be normalized in order to create a spatial balance between itself and other images used; see figs. 1-3; paragraphs [0046]-[0055]);

if it will fit in the packing area, packing a digital image from the set having the identified largest pre-determined print size in a first orientation in the packing area in a first trial pack (i.e. the amount of images placed on a page is determined automatically based on the layout and the amount of space that allows the images to achieve a

spatial balance on the specified layout. If the image does not assist in creating a spatial balance or there is not enough room to fit an image on the page, the current image is not chosen automatically for placement. The system determines the size of an area to place an image and judges whether that area should be packed with the image that will not overlap other images. This image has a certain print size that needs to be taken into account before placing the image in a certain place with other images. With this process being performed, this is an example of identifying an image with a pre-determined print size to place on the layout in order for the image to not overlap other images. Once the image is placed, it can be determined that this image is the largest image placed on the layout compared to other images. Next, the normalizing process occurs to make sure that the image that is the largest is normalized in some manner to create a better spatial balance in the layout, and as a result, the amount of white space on the layout is minimized. Moreover, this process occurs until there can not be any more images laid out on the trial layout and a score is calculated for the trial layout; see fig. 7 and 11-14; paragraphs [0049]-[0055]); and

if it will fit in the packing area, packing the digital image from the set having the identified largest pre-determined print size in a second orientation in the packing area in a second trial pack (i.e. during the process that is illustrated in figure 7, the above process that occurs to the first or prior trial layout occurs to the new or the second trial layout. The new trial layout shows another orientation of the same images being used due to the specifications given by the aspect ratio of the page format. Like the above explanation, this same system again determines the size of an area to place an image.

The system judges whether an area should be packed with the image for another trial layout based on if the user has expressed dissatisfaction or the system compares layouts with different scores. In this second layout, again the images with a pre-determined print size are placed on the layout and these images are placed in a manner that will provide ample space for the image to be placed and not overlap any other images in the layout. A normalizing process may occur to assist in improving the visual aspect of the layout. This process again occurs until there can not be any more images laid out on the trail layout and a score is calculated for the trial layout; see fig. 7; paragraphs [0049]-[0055] and [0057]-[0063]).

Re claim 4: Simon et al discloses the method of claim 3,

wherein packing the digital image in the first orientation includes, if the digital image from the set having the identified largest pre-determined print size will fit in the first orientation, packing as many digital images from the set having the identified largest pre-determined print size as possible in the packing area in the first trial pack (i.e. the invention finds images of certain sizes that may fill the trial layout in an efficient manner. This may be a large or small sized image. The images chosen to fill the trial layout shown in figures 8-10 are either the same size or a different size and the feature of packing as many digital images of a certain size as possible in a certain orientation in a trial pack is performed. The images in the system that are used have a pre-determined size to be printed on the layout. The images are placed on the layout with a pre-determined size and these sizes can be the largest or the smallest to be placed and

printed on the overall layout. The invention can pack large images, compared to other images, on a layout as long as the images do not overlap. These images can be packed until no other images can be placed on the layout anymore. Then, the process of normalization may occur to make the overall layout have a better aesthetic look; see figs. 5-10; paragraphs [0049]-[0057] and [0059]); and

wherein packing the digital image in the second orientation includes, if the digital image from the set having the identified largest pre-determined print size will fit in the second orientation, packing as many digital images from the set having the identified pre-determined print size as possible in the second orientation in the second trial pack (i.e. when comparing which trial layout is the most efficient in figure 7, the same process that occurred to the first or prior trial layout also occurs to the new or second trial layout. The second trial layout is another orientation of the same images and therefore, the above feature is also performed. Since the same process for the first orientation occurs for the second orientation, the feature of identifying a set of images to place within a pre-determined print space is also performed. Like in the first orientation, the images in the system that are used have a pre-determined size to be printed on the layout. The images are placed on the layout with a pre-determined size and these sizes can be the largest or the smallest to be placed and printed on the overall layout. The invention can pack large images, compared to other images, on a layout as long as the images do not overlap. These images can be packed until no other images can be placed on the layout anymore. Then, the process of normalization may occur to make the overall

layout have a better aesthetic lo; see fig. 5-10; paragraphs [0049]-[0055] and [0059]-[0063]).

Re claim 5: Simon et al the method, wherein:

identifying a largest of the pre-determined print sizes (i.e. shown in the illustrated prior art image in figure 2 is a template with the identification of a pre-determined print size for each of the digital images to be used on the template. Since this template is used to identify pre-determined print sizes of the pictures to be used, this performs the above feature. When the system employs the method of automatically placing pictures in the layout, the system chooses, or identifies, a certain image with pre-determined size to be placed on the overall layout to be printed. The image can be the largest or the smallest image out of the images chosen. This performs the feature of identifying an image with the largest pre-determined print size to be placed in the layout and placing the image or images on the page. The system may then normalize the pictures to take away the left over white space on the overall layout; see figs. 1-3; paragraphs [0046]-[0055]), comprises

identifying, from a set of digital images, a largest pre-determined print size that will fit in the packing area (i.e. although identifying the largest pre-determined print size is not specifically stated, it is performed by the device. With normalization, the largest sized image is isotropically scaled so that the shortest dimension of the image is equivalent to the other images used in the page format. The image with a certain size, which is identified, is the image that will create a spatial balance in the page format.

This image can be the largest or the smallest size. The image will still be normalized to fit the image together with the other images to have the page format displayed to the user in a balanced manner. With the system automatically identifying the image with the largest pre-determined print size in group of chosen images to use, the system takes this information in order to figure out a way to normalize the image so that the image does not dominate the entire image. This is an example of identifying the largest pre-determined print size of an image, packing the image in the layout, but also normalizing the image so that it does not dominate the overall layout. The image identified is considered to have a pre-determined print size since the source of the image determined the size of the image before the image was actually used in the current system shown in figure 1 to organize and pack images on a layout; see figs. 5-10; paragraph [0050]-[0057]); and

packing as many digital images of the identified largest pre-determined print size as possible comprises repeatedly packing digital images of the identified largest pre-determined print size in a given orientation until either another digital image of the identified largest pre-determined print size will not fit or no digital image of the identified largest pre-determined print size remains in the set (i.e. the invention finds images of certain sizes that may fill the trial layout in an efficient manner. This may be a large or small sized image. The images chosen to fill the trial layout shown in figures 8-10 are either the same size or a different size and the feature of packing as many digital images of a certain size as possible in a certain orientation in a trial pack is performed. The images are placed on the page layout until the images will not fit on the page in

order to create a spatial balance. Also, because of the selection criteria listed in paragraph [0050], certain images do not remain since the images do not meet criteria set by the user. The other feature of no digital image of the identified size remains in the set is performed since the identified size may be associated with a time and date and if the image of the above time and date criteria does not remain, the above feature is performed. With the system automatically identifying the image with the largest pre-determined print size in group of chosen images to use, the system takes this information in order to figure out a way to normalize the image so that the image does not dominate the entire image. This is an example of identifying the largest pre-determined print size of an image, packing the image in the layout, but also normalizing the image so that it does not dominate the overall layout. With the images identified, one, a couple, or all of the images may be considered as the largest in print size if these images are compared to the other images used in making up the layout. The images identified are considered to have a pre-determined print size since the source of the images determined the sizes of the images before the images were actually used in the current system shown in figure 1 to organize and pack images on a layout; see figs. 5-10; paragraphs [0049]-[0055] and [0059]).

Re claim 6: Simon et al discloses a method for generating trial packs from a set of digital images, each digital image in the set having a pre-determined print size (i.e. shown in the illustrated prior art image in figure 2 is a template with the identification of a pre-determined print size for each of the digital images for placement on the template.

Since this template is used to identify pre-determined print sizes of the pictures, this performs the above feature. Also, when the system employs the method of automatically placing pictures in the layout, the system chooses, or identifies, a certain pre-determined size on the overall layout for placement on the layout to be printed. With this pre-determined space, the images chosen have a pre-determined print size and this size is taken into account when placing the images on the overall layout. The print size of the images is used to assist the system in arranging the images in a more aesthetic manner. The images have a pre-determined print size since these images where taken by different sources (i.e. digital camera or scanner) and these different sources define the print size for the images. Therefore, the pre-determined print size feature is performed. The system may then normalize the pictures to take away the left over white space on the overall layout when these images are placed on the layout; see figs. 1-3; paragraphs [0046]-[0055]), the method comprising

opening a trial pack as an empty page (i.e. figure 6 is an example of an empty trial layout. This shows a view of the page in which the pictures of figure 3 will be placed; see fig. 3 and 6; paragraphs [0038] and [0050]);

continuing, if possible, each open trial pack (i.e. the selection of the images placed on the trial layout are automatically selected based on the width, height or aspect ratio of the page. With the images chosen automatically, the images are continually placed on the page to fit the format chosen and normalizing of the images takes place. Normalizing ensures the images are distanced from one another in a manner to create a spatial balance between the pictures; see fig. 5; paragraphs [0049]-

[0055]) and closing each trial pack that cannot be continued (i.e. once normalizing takes place, the images are placed to create a spatial balance. Once this is shown to the user for acceptance, the user has a choice to accept the layout or go through the page layout process again until an acceptable page layout is obtained. The layout process is completed or closed once the user is displayed the new layout; see fig. 5; paragraphs [0049]-[0055]); and

repeating the continuing and closing until no trial pack remains open (i.e. when performing the process of comparing and accepting a page layout, the process of continuing to apply images to certain layouts and closing the process of adding images occurs because the layouts that have the appropriate amount of images on a page are repeated until a user decides to accept a displayed layout. At the point where the layout is displayed occurs at a point in which the trial layout is closed; see fig. 5; paragraphs [0049]-[0055]).

wherein continuing, comprises, upon determining that at least one digital image from the set that has yet to be packed in the open trial pack will fit in the packing area (i.e. in the system, a given number of images are to be laid out on a certain page layout. The system ensures that this given number is met. If this given number is not met for the layout, the system makes the determination and then looks for the image to be placed on the page layout to fit the given number of images on the page layout. This is an example of the continuing function occurring in the system; see figs. 5-10; paragraphs [0050]-[0064]):

identifying a largest pre-determined print size of a digital image remaining in the set that will fit in the packing area (i.e. shown in the illustrated prior art image in figure 2 is a template with the identification of a pre-determined print size for each of the digital images to be used on the template. Since this template is used to identify pre-determined print sizes of the pictures to be used, this performs the above feature. Also, when the system employs the method of automatically placing pictures in the layout, the system chooses, or identifies, a certain pre-determined size on the overall layout to place the picture for printing. With this pre-determined space, the images chosen have a pre-determined print size and this size is taken into account when placing the images on the overall layout. The print size of the images is used to assist the system in arranging the images in a more aesthetic manner. The images in the system have a pre-determined print size since these images where taken by different sources (i.e. digital camera or scanner) and these different sources define the print size for the images. Therefore, the pre-determined print size feature is performed. The system may then normalize the pictures to take away the left over white space on the overall layout when these images are placed on the layout. With the system able to manually or automatically choose images to be placed on a layout, a last image that can fit a remaining space on the layout may be chosen. This image may be the largest pre-determined print size that is able to fit that particular space in the image. When looking at figure 14, the cross-hatched space may be used to fit a certain image and the image chosen may be the largest print size available to fit in that area. When the system uses the method of automatically placing pictures in the layout, the system chooses, or

identifies, a certain pre-determined size on the overall layout to place the picture on the layout to be printed. In the system, an image may be identified as being much larger or smaller than the other images. The image that is much larger than the other images is considered as the image with the largest pre-determined print size. This image is identified when it is chosen to be placed on the layout and the smallest dimension of the image may be normalized in order to create a spatial balance between itself and other images; see figs. 1-3; paragraphs [0046]-[0055] and [0057]-[0067]);

if it will fit, packing a digital image of the identified largest pre-determined print size in a first orientation and continuing the open trial pack as a first child trial pack (i.e. the amount of images placed on a page is determined automatically based on the layout and the amount of space that allows the images to achieve a spatial balance on the specified layout. If the image with a pre-determined print size does not assist in creating a spatial balance or there is not enough room to fit an image on the page, that image is not chosen automatically to be placed on the page. When the first image with a pre-determined print size is chosen, another image with another pre-determined print size is chosen to see if the first selected images together will create a spatial balance. If the images together create a spatial balance, other images are chosen until the presentation of an image will take the overall page layout out of a spatial balance. Then a score is created to represent the amount of space left on the page layout. The process described above is an example of continuing the trial layout as a child trial pack. The images chosen can be have the smallest or largest pre-determined print size, but the process of normalization is used to assist in creating the spatial balance in

the system so that the image sizes do not become a problem to the overall appearance of the layout; see fig. 5, 7 and 11-14; paragraphs [0049]-[0057]); and

if it will fit, packing a digital image of the identified largest pre-determined print size in a second orientation and continuing the trial pack as a second child trial pack (i.e. during the process that is illustrated in figure 7, the above process that occurs to the first or prior trial layout occurs to the new or the second trial layout. The new trial layout shows another orientation of the same images, which have the same pre-determined print sizes, being used due to the specifications given by the aspect ratio of the page format. The above process of the continuing of the trial layout as a first trial pack is the same for the second trial layout. The second trial layout is continued as a second child trial pack; see fig. 5 and 7; paragraphs [0049]-[0057] and [0059]-[0063]).

Re claim 8: Simon et al discloses the method of claim 6, wherein:

packing the digital image of the identified largest pre-determined print-size in the first orientation comprises packing as many digital images of the identified largest pre-determined print size as possible in the first orientation and continuing the open trial pack as a first child trial pack (i.e. the amount of images placed on a page is determined automatically based on the layout and the amount of space that allows the images to achieve a spatial balance on the specified layout. If the image does not assist in creating a spatial balance or there is not enough room to fit an image on the page, that image is not chosen automatically to be placed on the page. When the first image with a pre-determined print size is chosen, another image is chosen to see if the image sizes

together will create a spatial balance. If the print sizes of the images together create a spatial balance, other images are chosen until the presentation of an image will take the overall page layout out of a spatial balance. Then a score is created to represent the amount of space left on the page layout. The process described above is an example of continuing the trial layout as a child trial pack. Regarding the largest pre-determined print size being chosen and packed, the images used can be the largest or the smallest in regards to the print size on the layout. The images may be the largest for the area designated on the layout for the image to be placed as shown in figure 17; see fig. 5, 7 and 11-14; paragraphs [0049]-[0055] and [0057]-[0067]); and

packing the digital image of the identified largest pre-determined print-size in the second orientation comprises packing as many digital images of the identified largest pre-determined print size as possible in the second orientation and continuing the open trial pack as a second child trial pack (i.e. during the process that is illustrated in figure 7, the above process that occurs to the first or prior trial layout occurs to the new or the second trial layout. The new trial layout shows another orientation of the same images, which has the same print sizes, being used due to the specifications given by the aspect ratio of the page format. Also, the above process of the continuing of the trial layout as a first trial pack is the same for the second trial layout. The second trial layout is continued as a second child trial pack; see fig. 5 and 7; paragraphs [0049]-[0055] and [0059]-[0063]).

Re claim 9: Simon et al discloses the method of claim 8, wherein packing as many digital images of the identified largest pre-determined print size as possible comprises repeatedly packing digital images of the identified largest pre-determined print size in a given orientation until either another digital image of the identified largest pre-determined print size will not fit or no digital image of the identified largest pre-determined print size remains in the set (i.e. the invention finds images of certain sizes that may fill the trial layout in an efficient manner. This may be a large or small sized image. The images chosen to fill the trial layout shown in figures 8-10 are either the same size or a different size and the feature of packing as many digital images of a certain size as possible in a certain orientation in a trial pack is performed. The images with certain print sizes are placed on the page layout until the images will not fit on the page in order to create a spatial balance. Also, because of the selection criteria listed in paragraph [0050], certain images do not remain since the images do not meet criteria set by the user. The other feature of no digital image of the identified size remains in the set is performed since the identified size may be associated with a time and date and if the image of the above time and date criteria does not remain, the above feature is performed. Regarding the largest pre-determined print size being chosen and packed, the images used can be the largest or the smallest in regards to the print size on the layout. The images may be the largest for the area designated on the layout for the image to be placed as shown in figure 17; see figs. 5-10; paragraphs [0049]-[0055] and [0059]).

Re claim 10: Simon et al discloses the method of claim 6, wherein closing comprises, for each open trial pack, closing that pack if no digital image from the set that has yet to be packed in the open trial pack will fit in the packing area (i.e. when performing the process of comparing and accepting a page layout, the process of continuing to apply images to certain layouts and closing the process of adding images occurs because the layouts have the appropriate amount of images on a page and are repeated until a user decides to accept a displayed layout. The trial layouts are closed when the images selected create a spatial balance and any more images added to the layout may disrupt the spatial balance in the page format chosen. Therefore, when a page layout cannot have any images added to the layout because any page added will not fit in order to keep a spatial balance, then the page layout is closed; see figs. 5 and 7; paragraphs [0049]-[0055]).

Re claim 11: Simon et al discloses a method of organizing digital images on a page, comprising:

selecting a set of digital images, each digital image in the set having a pre-determined print size (i.e. in figure 5, the step 120 allows the images used to be arranged on a page format to be selected manually or automatically. Shown in the illustrated prior art image in figure 2 is a template with the identification of a pre-determined print size for each of the digital images to be used on the template. Since this template is used to identify pre-determined print sizes of the pictures to be used, this performs the above feature. When the system uses the method of automatically

placing pictures in the layout, the system chooses, or identifies, a certain pre-determined size on the overall layout to place the picture on the layout to be printed. With this pre-determined space, the images chosen have a pre-determined print size and this size is taken into account when placing the images on the overall layout. The print size of the images is used to assist the system in arranging the images in a more aesthetic manner. The images in the system have a pre-determined print size since these images where taken by different sources (i.e. digital camera or scanner) and these different sources define the print size for the images. Therefore, the pre-determined print size feature is performed. The system may then normalize the pictures to take away the left over white space on the overall layout when these images are placed on the layout; see fig. 5; paragraphs [0047]-[0057]);

opening a trial pack as an empty page (i.e. figure 6 is an example of an empty trial layout. This shows a view of the page in which the pictures of figure 3 will be placed; see fig. 3 and 6; paragraphs [0038] and [0050]);

continuing, if possible, each open trial pack (i.e. the selection of the images placed on the trial layout are automatically selected based on the width, height or aspect ratio of the page. With the images chosen automatically, the images are continually placed on the page to fit the format chosen and normalizing of the images also takes place. The normalizing ensures that the images are distanced from one another in a manner to create a spatial balance between the pictures; see fig. 5; paragraphs [0049]-[0055]) and closing each trial pack that cannot be continued (i.e. once normalizing takes place, the images are placed to create a spatial balance. Once

this is shown to the user for acceptance, the user has a choice to accept the layout or go through the page layout process again until an acceptable page layout is obtained. The layout process is completed or closed once the user is displayed the new layout; see fig. 5; paragraphs [0049]-[0055]); and

repeating the steps of continuing and closing until no trial pack remains open (i.e. when performing the process of comparing and accepting a page layout, the process of continuing to apply images to certain layouts and closing the process of adding images occurs because the layouts have the appropriate amount of images on a page and are repeated until a user decides to accept a displayed layout; see fig. 5; paragraphs [0049]-[0055])

comparing the trial closed packs (i.e. at step 240 in figure 7, the two trial layouts are compared to see which layout has a greater score in relation to the cost function or white space. These trial packs cannot have any more images placed on them and are therefore closed when compared; see figs. 6-10; paragraphs [0057]-[0061]);

selecting a trial pack based upon the comparison (i.e. based on the comparison of the trial layouts and their associated scores, the trial layout with the lowest cost function or white space score is chosen; see figs. 6-10; paragraphs [0057]-[0061]); and

determining if any of the digital images from the set were not used in the selected trial pack, and if any digital images are determined to not be used, selecting the unused digital images as the set of digital images (i.e. in step 100, the digital images to be chosen are recognized to be in a database that stores the pictures. In step 120, images that are determined to be on the database that are not packed on the current page

layout, are selected to be placed on the page. This process can be performed manually or automatically. The images that are chosen in step 120 are images that are not placed on the page layout before that step has occurred; see fig. 5; paragraphs [0049]-[0055]) and repeating the opening, continuing, closing, comparing, selecting, and determining (i.e. when another trial layout is being compared to a previous trial layout, the steps of opening a new layout page, continuing to place the same images on the pages, closing the trial layout after another arrangement is created, then comparing, selecting and determining are performed again or repeated. A trial layout may be repeated over several times, as illustrated in figure 5, until a desirable layout is displayed to the user; see fig. 5 and 7; paragraphs [0049]-[0055] and [0059]-[0063]);

wherein continuing comprises defining a packing area and upon determining that at least one digital image from the set that has yet to be packed in the open trial pack will fit in the packing area (i.e. in the system, a given number of images are to be laid out on a certain page layout. The system ensures that this given number is met. If this given number is not met for the layout, the system makes the determination and then looks for the image to be placed on the page layout to fit the given number of images on the page layout. This is an example of the continuing function occurring in the system. If a user is dissatisfied with the current layout, the system may redefine new areas to pack images and place those image in the new areas for packing while making sure that the designated number of images to be placed on the overall layout is still performed; see figs. 5-10; paragraphs [0050]-[0064]):

identifying a largest pre-determined print size of a digital image remaining in the set that will fit in the packing area (i.e. shown in the illustrated prior art image in figure 2 is a template with the identification of a pre-determined print size for each of the digital images to be used on the template. Since this template is used to identify pre-determined print sizes of the pictures to be used, this performs the above feature. When the system employs the method of automatically placing pictures in the layout, the system chooses, or identifies, a certain pre-determined size on the overall layout to place the picture on the layout to be printed. With this pre-determined space, the images chosen have a pre-determined print size and this size is taken into account when placing the images on the overall layout. The print size of the images is used to assist the system in arranging the images in a more aesthetic manner. The images in the system have a pre-determined print size since these images where taken by different sources (i.e. digital camera or scanner) and these different sources define the print size for the images and therefore, the pre-determined print size feature is performed. The system may then normalize the pictures to take away the left over white space on the overall layout when these images are placed on the layout. With the system able to manually or automatically choose images to be placed on a layout, a last image that can fit a remaining space on the layout may be chosen. This image may be the largest pre-determined print size that is able to fit that particular space in the image. When looking at figure 14, the cross-hatched space may be used to fit a certain image and the image chosen may be the largest print size available to fit in that area. When the system uses the method of automatically placing pictures in the layout, the system

chooses, or identifies, a certain pre-determined size on the overall layout to place the picture on the layout to be printed. In the system, an image may be identified as being much larger or smaller than the rest of the images. The image that is much larger than the others is considered as the image with the largest pre-determined print size. This image is identified when it is chosen to be placed on the layout and the smallest dimension of the image may be normalized in order to create a spatial balance between itself and other images used in the system; see figs. 1-3; paragraphs [0046]-[0055] and [0057]-[0067]);

if it will fit, packing a digital image of the identified pre-determined print size in a first orientation and continuing the open trial pack as a first child trial pack (i.e. the amount of images placed on a page is determined automatically based on the layout and the amount of space that allows the images to achieve a spatial balance on the specified layout. If the image with a pre-determined print size does not assist in creating a spatial balance or there is not enough room to fit an image on the page, that image is not chosen automatically to be placed on the page. When the first image with a pre-determined print size is chosen, another image with another pre-determined print size is chosen to see if the first images together will create a spatial balance. If the images together create a spatial balance, other images are chosen until the presentation of an image will take the overall page layout out of a spatial balance. Then a score is created to represent the amount of space left on the page layout. The process described above is an example of continuing the trial layout as a child trial pack. The images chosen can be have the smallest or largest pre-determined print

size, but the process of normalization is used to assist in creating the spatial balance in the system so that the image sizes do not become a problem to the overall appearance of the layout; see fig. 5, 7 and 11-14; paragraphs [0049]-[0057]); and

if it will fit, packing a digital image of the identified pre-determined print size in a second orientation and continuing the trial pack as a second child trial pack (i.e. during the process that is illustrated in figure 7, the above process that occurs to the first or prior trial layout occurs to the new or the second trial layout. The new trial layout shows another orientation of the same images, which have the same pre-determined print sizes, being used due to the specifications given by the aspect ratio of the page format. Also, the above process of the continuing of the trial layout as a first trial pack is the same for the second trial layout. The second trial layout is continued as a second child trial pack; see fig. 5 and 7; paragraphs [0049]-[0057] and [0059]-[0063]).

Re claim 15: Simon et al discloses the method of claim 11, wherein:

packing the digital image of the identified largest pre-determined print size in the first orientation comprises packing as many digital images of the identified pre-determined print size as possible in the first orientation and continuing the open trial pack as a first child trial pack (i.e. the amount of images placed on a page is determined automatically based on the layout and the amount of space that allows the images to achieve a spatial balance on the specified layout. If the image does not assist in creating a spatial balance or there is not enough room to fit an image on the page, that image is not chosen automatically to be placed on the page. When the first image with

a pre-determined print size is chosen, another image is chosen to see if the image sizes together will create a spatial balance. If the print sizes of the images together create a spatial balance, other images are chosen until the presentation of an image will take the overall page layout out of a spatial balance. Then a score is created to represent the amount of space left on the page layout. The process described above is an example of continuing the trial layout as a child trial pack. Regarding the largest pre-determined print size being chosen and packed, the images used can be the largest or the smallest in regards to the print size on the layout. The images may be the largest for the area designated on the layout for the image to be placed as shown in figure 17; see fig. 5, 7 and 11-14; paragraphs [0049]-[0055] and [0057]-[0067]); and

packing the digital image of the identified largest pre-determined print size in the second orientation comprises packing as many digital images of the identified pre-determined print size as possible in the second orientation and continuing the open trial pack as a second child trial pack (i.e. during the process that is illustrated in figure 7, the above process that occurs to the first or prior trial layout occurs to the new or the second trial layout. The new trial layout shows another orientation of the same images, which has the same print sizes, being used due to the specifications given by the aspect ratio of the page format. Also, the above process of the continuing of the trial layout as a first trial pack is the same for the second trial layout. The second trial layout is continued as a second child trial pack; see fig. 5 and 7; paragraphs [0049]-[0055] and [0059]-[0063]).

Re claim 16: Simon et al discloses the method of claim 15, wherein packing as many digital images of the identified pre-determined print size as possible comprises repeatedly packing digital images of the identified pre-determined print size in a given orientation until either another digital image of the identified pre-determined print size will not fit or no digital image of the identified pre-determined print size remains in the set (i.e. the invention finds images of certain sizes that may fill the trial layout in an efficient manner. This may be a large or small sized image. The images chosen to fill the trial layout shown in figures 8-10 are either the same size or a different size and the feature of packing as many digital images of a certain size as possible in a certain orientation in a trial pack is performed. The images with certain print sizes are placed on the page layout until the images will not fit on the page in order to create a spatial balance. Also, because of the selection criteria listed in paragraph [0050], certain images do not remain since the images do not meet criteria set by the user. The other feature of no digital image of the identified size remains in the set is performed since the identified size may be associated with a time and date and if the image of the above time and date criteria does not remain, the above feature is performed. Regarding the largest pre-determined print size being chosen and packed, the images used can be the largest or the smallest in regards to the print size on the layout. The images may be the largest for the area designated on the layout for the image to be placed as shown in figure 17; see figs. 5-10; paragraphs [0049]-[0055] and [0059]).

Re claim 17: Simon et al discloses the method of claim 11, wherein closing comprises, for each open trial pack, closing that pack if no digital image from the set that has yet to be packed in the open trial pack will fit in the packing area (i.e. when performing the process of comparing and accepting a page layout, the process of continuing to apply images to certain layouts and closing the process of adding images occurs because the layouts have the appropriate amount of images on a page and are repeated until a user decides to accept a displayed layout. The trial layouts are closed when the images selected create a spatial balance and any more images added to the layout may disrupt the spatial balance in the page format chosen. Therefore, when a page layout cannot have any images added to the layout because any page added will not fit in order to keep a spatial balance, then the page layout is closed; see figs. 5 and 7; paragraphs [0049]-[0055]).

Re claim 23: Simon et al discloses a computer readable medium having instructions for:

identifying a set of digital images (i.e. in figure 5, the step 120 allows the images used to be arranged on a page format to be selected manually or automatically; see fig. 5; paragraphs [0049]-[0055]);

identifying a pre-determined print size for each of the digital images in the set (i.e. shown in the illustrated prior art image in figure 2 is a template with the identification of a pre-determined print size for each of the digital images to be used on the template. Since this template is used to identify pre-determined print sizes of the pictures to be used, this performs the above feature. Also, when the system employs

the method of automatically placing pictures in the layout, the system chooses, or identifies a certain pre-determined size on the overall layout to place the picture on the layout to be printed. With this pre-determined space, the images chosen have a pre-determined print size and this size is taken into account when placing the images on the overall layout. The print size of the images is used to assist the system in arranging the images in a more aesthetic manner. The images in the system have a pre-determined print size since these images where taken by different sources (i.e. digital camera or scanner) and these different sources define the print size for the images. Therefore, the pre-determined print size feature is performed. The system may then normalize the pictures to take away the left over white space on the overall layout when these images are placed on the layout; see figs. 1-3; paragraphs [0046]-[0055]);

defining a packing area (i.e. when the format of a page is selected in step 110, this is analogous to defining a packing area. In this step, the height and width of the page is specified in order to define where and within a format the images are to be placed on the page; see fig. 5 and 6; paragraph [0049] and [0050]);

identifying a largest of the predetermined print sizes (i.e. shown in the illustrated prior art image in figure 2 is a template with the identification of a pre-determined print size for each of the digital images to be used on the template. Since this template is used to identify pre-determined print sizes of the pictures to be used, this performs the above feature. When the system employs the method of automatically placing pictures in the layout, the system chooses, or identifies, a certain pre-determined size on the overall layout to place the picture on the layout to be printed. In the system, an image

may be identified as being much larger or smaller than the rest of the images. The image that is much larger than the others is considered as the image with the largest pre-determined print size. This image is identified when it is chosen to be placed on the layout and the smallest dimension of the image may be normalized in order to create a spatial balance between itself and other images used in the system; see figs. 1-3; paragraphs [0046]-[0055]);

if it will fit in the packing area, packing a digital image from the set having the identified largest pre-determined print size set in a first orientation in the packing area in a first trial pack (i.e. the amount of images placed on a page is determined automatically based on the layout and the amount of space that allows the images to achieve a spatial balance on the specified layout. If the image does not assist in creating a spatial balance or there is not enough room to fit an image on the page, the current image is not chosen automatically to be placed on the page. The system determines the size of an area to place an image and judges whether that area should be packed with the image that will not overlap other images. This image has a certain print size that needs to be taken into account before placing the image in a certain place with other images. With this process being performed, this is an example of identifying an image with a pre-determined print size to place on the layout in order for the image to not be overlapping other images. Once the image is placed, it can be determined that this image is the largest image placed on the layout compared to the rest of the images. Next, the normalizing process occurs to make sure that the image that is the largest is normalized in some manner to create a better spatial balance in the layout and the amount of white

space on the layout is minimized. Also, this process occurs until there can not be any more images laid out on the trial layout and a score is calculated for the trial layout; see fig. 7 and 11-14; paragraphs [0049]-[0055]); and

if it will fit in the packing area, packing the digital image from the set having the identified largest pre-determined print size in the second orientation in the packing area in a second trial pack (i.e. during the process that is illustrated in figure 7, the above process that occurs to the first or prior trial layout occurs to the new or the second trial layout. The new trial layout shows another orientation of the same images being used due to the specifications given by the aspect ratio of the page format. Like the above explanation, this same system again determines the size of an area to place an image. The system judges whether that area should be packed with the image for another trial layout if the user has expressed dissatisfaction or the system compares layouts with different scores. In this second layout, again the images with a pre-determined print size are placed on the layout and these images are placed in a manner that will provide ample space for the image to be placed and not overlap any other images in the layout, and a normalizing process may occur to assist in improving the visual aspect of the layout. This process again occurs until there can not be any more images laid out on the trail layout and a score is calculated for the trial layout; see fig. 7; paragraphs [0049]-[0055] and [0057]-[0063]).

Re claim 24: Simon et al discloses the medium of claim 23, having further instruction for:

wherein the instructions for packing the digital image in the first orientation include instructions for, if the digital image from the set having the identified pre-determined print size will fit in the first orientation, packing as many digital images from the set having the identified largest pre-determined print size as possible in the packing area in the first trial pack (i.e. the invention finds images of certain sizes that may fill the trial layout in an efficient manner. This may be a large or small sized image. The images chosen to fill the trial layout shown in figures 8-10 are either the same size or a different size and the feature of packing as many digital images of a certain size as possible in a certain orientation in a trial pack is performed. The images in the system that are used have a pre-determined size to be printed on the layout. The images are placed on the layout with a pre-determined size and these sizes can be the largest or the smallest to be placed and printed on the overall layout. The invention can pack large images, compared to other images, on a layout as long as the images do not overlap. These images can be packed until no other images can be placed on the layout anymore. Then, the process of normalization may occur to make the overall layout have a better aesthetic look; see figs. 5-10; paragraphs [0049]-[0057] and [0059]); and

wherein the instructions for packing the digital image in the second orientation include instructions for, if the digital image from the set having the identified largest pre-determined print size will fit in the second orientation, packing as many digital images from the set having the identified largest pre-determined print size as possible in the second orientation in the second trial pack (i.e. when comparing which trial layout is the

most efficient in figure 7, the same process that occurred to the first or prior trial layout also occurs to the new or second trial layout. The second trial layout is another orientation of the same images and therefore, the above feature is also performed. Since the same process for the first orientation occurs for the second orientation, the feature of identifying a set of images to place within a pre-determined print space is also performed. Like in the first orientation, the images in the system that are used have a pre-determined size to be printed on the layout. The images are placed on the layout with a pre-determined size and these sizes can be the largest or the smallest to be placed and printed on the overall layout. The invention can pack large images, compared to other images, on a layout as long as the images do not overlap. These images can be packed until no other images can be placed on the layout anymore. Then, the process of normalization may occur to make the overall layout have a better aesthetic lo; see fig. 5-10; paragraphs [0049]-[0055] and [0059]-[0063]).

Re claim 25: Simon et al discloses the medium, wherein the instructions for:

identifying a largest of the pre-determined print sizes (i.e. shown in the illustrated prior art image in figure 2 is a template with the identification of a pre-determined print size for each of the digital images to be used on the template. Since this template is used to identify pre-determined print sizes of the pictures to be used, this performs the above feature. When the system employs the method of automatically placing pictures in the layout, the system chooses, or identifies, a certain image with pre-determined size to be placed on the overall layout to be printed. The image can be the largest or

the smallest image out of the images chosen. This performs the feature of identifying an image with the largest pre-determined print size to be placed in the layout and placing the image or images on the page. The system may then normalize the pictures to take away the left over white space on the overall layout; see figs. 1-3; paragraphs [0046]-[0055]), comprises

instructions for identifying, from a set of digital images, a largest pre-determined print size that will fit in the packing area (i.e. although identifying the largest pre-determined print size is not specifically stated, it is performed by the device. With normalization, the largest sized image is isotropically scaled so that the shortest dimension of the image is equivalent to the other images used in the page format. The image with a certain size, which is identified, is the image that will create a spatial balance in the page format. This image can be the largest or the smallest size. The image will still be normalized to fit the image together with the other images to have the page format displayed to the user in a balanced manner. With the system automatically identifying the image with the largest pre-determined print size in group of chosen images to use, the system takes this information in order to figure out a way to normalize the image so that the image does not dominate the entire image. This is an example of identifying the largest pre-determined print size of an image, packing the image in the layout, but also normalizing the image so that it does not dominate the overall layout. The image identified is considered to have a pre-determined print size since the source of the image determined the size of the image before the image was

actually used in the current system shown in figure 1 to organize and pack images on a layout; see figs. 5-10; paragraph [0050]-[0057]); and

packing as many digital images of the identified largest pre-determined print size as possible comprises instructions for repeatedly packing digital images of the identified largest pre-determined print size in a given orientation until either another digital image of the identified largest pre-determined print size will not fit or no digital image of the identified largest pre-determined print size remains in the set (i.e. the invention finds images of certain sizes that may fill the trial layout in an efficient manner. This may be a large or small sized image. The images chosen to fill the trial layout shown in figures 8-10 are either the same size or a different size and the feature of packing as many digital images of a certain size as possible in a certain orientation in a trial pack is performed. The images are placed on the page layout until the images will not fit on the page in order to create a spatial balance. Also, because of the selection criteria listed in paragraph [0050], certain images do not remain since the images do not meet criteria set by the user. The other feature of no digital image of the identified size remains in the set is performed since the identified size may be associated with a time and date and if the image of the above time and date criteria does not remain, the above feature is performed. With the system automatically identifying the image with the largest pre-determined print size in group of chosen images to use, the system takes this information in order to figure out a way to normalize the image so that the image does not dominate the entire image. This is an example of identifying the largest pre-determined print size of an image, packing the image in the layout, but also normalizing

the image so that it does not dominate the overall layout. With the images identified, one, a couple, or all of the images may be considered as the largest in print size if these images are compared to the other images used in making up the layout. The images identified are considered to have a pre-determined print size since the source of the images determined the sizes of the images before the images were actually used in the current system shown in figure 1 to organize and pack images on a layout; see figs. 5-10; paragraphs [0049]-[0055] and [0059]).

Re claim 26: Simon et al discloses a computer readable medium having computer executable instructions for:

selecting a set of digital images, each digital image in the set having a pre-determined print size (i.e. in figure 5, the step 120 allows the images used to be arranged on a page format to be selected manually or automatically. Shown in the illustrated prior art image in figure 2 is a template with the identification of a pre-determined print size for each of the digital images to be used on the template. Since this template is used to identify pre-determined print sizes of the pictures to be utilized, this performs the above feature. Also, when the system employs the method of automatically placing pictures in the layout, the system chooses, or identifies, a certain pre-determined size on the overall layout to place the picture on the layout to be printed. With this pre-determined space, the images chosen have a pre-determined print size and this size is taken into account when placing the images on the overall layout. The print size of the images is utilized to assist the system in arranging the images in a more

aesthetic manner. The images in the system have a pre-determined print size since these images where taken by different sources (i.e. digital camera or scanner) and these different sources define the print size for the images and therefore, the pre-determined print size feature is performed. The system may then normalize the pictures to take away the left over white space on the overall layout when these images are placed on the layout; see fig. 5; paragraphs [0047]-[0057]);

opening a trial pack as an empty page (i.e. figure 6 is an example of an empty trial layout. This shows a view of the page in which the pictures of figure 3 will be placed; see fig. 3 and 6; paragraphs [0038] and [0050]);

continuing, if possible, each open trial pack (i.e. the selection of the images placed on the trial layout are automatically selected based on the width, height or aspect ratio of the page. With the images chosen automatically, the images are continually placed on the page to fit the format chosen and normalizing of the images also takes place. The normalizing ensures that the images are distanced from one another in a manner to create a spatial balance between the pictures; see fig. 5; paragraphs [0049]-[0055]) and closing each trial pack that cannot be continued (i.e. once normalizing takes place, the images are placed to create a spatial balance. Once this is shown to the user for acceptance, the user has a choice to accept the layout or go through the page layout process again until an acceptable page layout is obtained. The layout process is completed or closed once the user is displayed the new layout; see fig. 5; paragraphs [0049]-[0055]); and

repeating the continuing and closing until no trial pack remains open (i.e. when performing the process of comparing and accepting a page layout, the process of continuing to apply images to certain layouts and closing the process of adding images occurs because the layouts have the appropriate amount of images on a page and are repeated until a user decides to accept a displayed layout; see fig. 5; paragraphs [0049]-[0055]);

wherein the instructions for continuing include instructions for, upon determining that at least one digital image from the set that has yet to be packed in the open trial pack will fit in the packing area (i.e. in the system, a given number of images are to be laid out on a certain page layout. The system ensures that this given number is met. If this given number is not met for the layout, the system makes the determination and then looks for the image to be placed on the page layout to fit the given number of images on the page layout. This is an example of the continuing function occurring in the system. If a user is dissatisfied with the current layout, the system may redefine new areas to pack images and place those image in the new areas for packing while making sure that the designated number of images to be placed on the overall layout is still performed; see figs. 5-10; paragraphs [0050]-[0064]):

identifying a largest pre-determined print size of a digital image remaining in the set that will fit in the packing area (i.e. shown in the illustrated prior art image in figure 2 is a template with the identification of a pre-determined print size for each of the digital images to be used on the template. Since this template is used to identify pre-determined print sizes of the pictures to be used, this performs the above feature. Also,

when the system employs the method of automatically placing pictures in the layout, the system chooses, or identifies, a certain pre-determined size on the overall layout to place the picture on the layout to be printed. With this pre-determined space, the images chosen have a pre-determined print size and this size is taken into account when placing the images on the overall layout. The print size of the images is used to assist the system in arranging the images in a more aesthetic manner. The images in the system have a pre-determined print size since these images where taken by different sources (i.e. digital camera or scanner) and these different sources define the print size for the images and therefore, the pre-determined print size feature is performed. The system may then normalize the pictures to take away the left over white space on the overall layout when these images are placed on the layout. With the system able to manually or automatically choose images to be placed on a layout, a last image that can fit a remaining space on the layout may be chosen. This image may be the largest pre-determined print size that is able to fit that particular space in the image. When looking at figure 14, the cross-hatched space may be used to fit a certain image and the image chosen may be the largest print size available to fit in that area. When the system uses the method of automatically placing pictures in the layout, the system chooses, or identifies, a certain pre-determined size on the overall layout to place the picture on the layout to be printed. In the system, an image may be identified as being much larger or smaller than the rest of the images. The image that is much larger than the others is considered as the image with the largest pre-determined print size. This image is identified when it is chosen to be placed on the layout and the smallest

dimension of the image may be normalized in order to create a spatial balance between itself and other images used in the system; see figs. 1-3; paragraphs [0046]-[0055] and [0057]-[0067]);

if it will fit, packing a digital image of the identified largest pre-determined print size in a first orientation and continuing the open trial pack as a first child trial pack (i.e. the amount of images placed on a page is determined automatically based on the layout and the amount of space that allows the images to achieve a spatial balance on the specified layout. If the image with a pre-determined print size does not assist in creating a spatial balance or there is not enough room to fit an image on the page, that image is not chosen automatically to be placed on the page. When the first image with a pre-determined print size is chosen, another image with another pre-determined print size is chosen to see if the first images together will create a spatial balance. If the images together create a spatial balance, other images are chosen until the presentation of an image will take the overall page layout out of a spatial balance. Then a score is created to represent the amount of space left on the page layout. The process described above is an example of continuing the trial layout as a child trial pack. The images chosen can be have the smallest or largest pre-determined print size, but the process of normalization is used to assist in creating the spatial balance in the system so that the image sizes do not become a problem to the overall appearance of the layout; see fig. 5, 7 and 11-14; paragraphs [0049]-[0057]); and

if it will fit, packing a digital image of the identified largest pre-determined print size in a second orientation and continuing the trial pack as a second child trial pack

(i.e. during the process that is illustrated in figure 7, the above process that occurs to the first or prior trial layout occurs to the new or the second trial layout. The new trial layout shows another orientation of the same images, which have the same pre-determined print sizes, being used due to the specifications given by the aspect ratio of the page format. Also, the above process of the continuing of the trial layout as a first trial pack is the same for the second trial layout. The second trial layout is continued as a second child trial pack; see fig. 5 and 7; paragraphs [0049]-[0057] and [0059]-[0063]).

Re claim 28: Simon et al discloses the medium, wherein the instructions for:

packing the digital image of the identified largest pre-determined print size in the first orientation include instructions for packing as many digital images of the identified largest pre-determined print size as possible in the first orientation and continuing the open trial pack as a first child trial pack (i.e. the amount of images placed on a page is determined automatically based on the layout and the amount of space that allows the images to achieve a spatial balance on the specified layout. If the image does not assist in creating a spatial balance or there is not enough room to fit an image on the page, that image is not chosen automatically to be placed on the page. When the first image with a pre-determined print size is chosen, another image is chosen to see if the image sizes together will create a spatial balance. If the print sizes of the images together create a spatial balance, other images are chosen until the presentation of an image will take the overall page layout out of a spatial balance. Then a score is created to represent the amount of space left on the page layout. The process described above

is an example of continuing the trial layout as a child trial pack. Regarding the largest pre-determined print size being chosen and packed, the images used can be the largest or the smallest in regards to the print size on the layout. The images may be the largest for the area designated on the layout for the image to be placed as shown in figure 17; see fig. 5, 7 and 11-14; paragraphs [0049]-[0055] and [0057]-[0067]); and

packing the digital image of the identified largest pre-determined print size in the second orientation include instructions for packing as many digital images of the identified largest pre-determined print size as possible in the second orientation and continuing the open trial pack as a second child trial pack (i.e. during the process that is illustrated in figure 7, the above process that occurs to the first or prior trial layout occurs to the new or the second trial layout. The new trial layout shows another orientation of the same images, which has the same print sizes, being used due to the specifications given by the aspect ratio of the page format. Also, the above process of the continuing of the trial layout as a first trial pack is the same for the second trial layout. The second trial layout is continued as a second child trial pack; see fig. 5 and 7; paragraphs [0049]-[0055] and [0059]-[0063]).

Re claim 29: Simon et al discloses the medium of claim 28, wherein the instructions for packing as many digital images of the identified largest pre-determined print size as possible include instructions for repeatedly packing digital images of the identified largest pre-determined print size in a given orientation until either another digital image of the identified largest pre-determined print size will not fit or no digital image of the

identified largest pre-determined print size remains in the set (i.e. the invention finds images of certain sizes that may fill the trial layout in an efficient manner. This may be a large or small sized image. The images chosen to fill the trial layout shown in figures 8-10 are either the same size or a different size and the feature of packing as many digital images of a certain size as possible in a certain orientation in a trial pack is performed. The images with certain print sizes are placed on the page layout until the images will not fit on the page in order to create a spatial balance. Also, because of the selection criteria listed in paragraph [0050], certain images do not remain since the images do not meet criteria set by the user. The other feature of no digital image of the identified size remains in the set is performed since the identified size may be associated with a time and date and if the image of the above time and date criteria does not remain, the above feature is performed. Regarding the largest pre-determined print size being chosen and packed, the images used can be the largest or the smallest in regards to the print size on the layout. The images may be the largest for the area designated on the layout for the image to be placed as shown in figure 17; see figs. 5-10; paragraphs [0049]-[0055] and [0059]).

Re claim 30: Simon et al discloses the medium of claim 26, wherein the instructions for closing include instructions for, for each open trial pack, closing that pack if no digital image from the set that has yet to be packed in the open trial pack will fit in the packing area (i.e. when performing the process of comparing and accepting a page layout, the process of continuing to apply images to certain layouts and closing the process of

adding images occurs because the layouts have the appropriate amount of images on a page and are repeated until a user decides to accept a displayed layout. The trial layouts are closed when the images selected create a spatial balance and any more images added to the layout may disrupt the spatial balance in the page format chosen. Therefore, when a page layout cannot have any images added to the layout because any page added will not fit in order to keep a spatial balance, then the page layout is closed; see figs. 5 and 7; paragraphs [0049]-[0055]).

Re claim 31: Simon et al discloses a computer readable medium having computer executable instructions for

selecting a set of digital images, each digital image in the set having a pre-determined print size (i.e. in figure 5, the step 120 allows the images used to be arranged on a page format to be selected manually or automatically. Shown in the illustrated prior art image in figure 2 is a template with the identification of a pre-determined print size for each of the digital images to be used on the template. Since this template is used to identify pre-determined print sizes of the pictures, this performs the above feature. Also, when the system employs the method of automatically placing pictures in the layout, the system chooses, or identifies a certain pre-determined size on the overall layout to place the picture on the layout to be printed. With this pre-determined space, the images chosen have a pre-determined print size and this size is taken into account when placing the images on the overall layout. The print size of the images is used to assist the system in arranging the images in a more aesthetic

manner. The images in the system have a pre-determined print size since these images where taken by different sources (i.e. digital camera or scanner) and these different sources define the print size for the images and therefore, the pre-determined print size feature is performed. The system may then normalize the pictures to take away the left over white space on the overall layout when these images are placed on the layout; see fig. 5; paragraphs [0047]-[0057]);

opening a trial pack as an empty page (i.e. figure 6 is an example of an empty trial layout. This shows a view of the page in which the pictures of figure 3 will be placed; see fig. 3 and 6; paragraphs [0038] and [0050]);

continuing, if possible, each open trial pack (i.e. the selection of the images placed on the trial layout are automatically selected based on the width, height or aspect ratio of the page. With the images chosen automatically, the images are continually placed on the page to fit the format chosen and normalizing of the images also takes place. The normalizing ensures that the images are distanced from one another in a manner to create a spatial balance between the pictures; see fig. 5; paragraphs [0049]-[0055]) and closing each trial pack that cannot be continued (i.e. once normalizing takes place, the images are placed to create a spatial balance. Once this is shown to the user for acceptance, the user has a choice to accept the layout or go through the page layout process again until an acceptable page layout is obtained. The layout process is completed or closed once the user is displayed the new layout; see fig. 5; paragraphs [0049]-[0055]); and

repeating the steps of continuing and closing until no trial pack remains open (i.e. when performing the process of comparing and accepting a page layout, the process of continuing to apply images to certain layouts and closing the process of adding images occurs because the layouts have the appropriate amount of images on a page and are repeated until a user decides to accept a displayed layout; see fig. 5; paragraphs [0049]-[0055]);

comparing the closed trial packs (i.e. at step 240 in figure 7, the two trial layouts are compared to see which layout has a greater score in relation to the cost function or white space; see figs. 6-10; paragraphs [0057]-[0061]);

selecting a trial pack based upon the comparison (i.e. based on the comparison of the trial layouts and their associated scores, the trial layout with the lowest cost function or white space score is chosen; see figs. 6-10; paragraphs [0057]-[0061]); and

determining if any of the digital images from the set were not used in the selected trial pack, and if any digital images are determined to not be used, selecting the unused digital images as the set of digital images (i.e. in step 100, the digital images to be chosen are recognized to be in a database that stores the pictures. In step 120, images that are determined to be on the database that are not packed on a page layout, are selected to be placed on a page. This process can be performed manually or automatically. The images that are chosen in step 120 are images that are not placed on the page layout before that step has occurred; see fig. 5; paragraphs [0049]-[0055]) and repeating the opening, continuing, closing, comparing, selecting, and determining (i.e. when another trial layout is being compared to a previous trial layout, the steps of

opening a new layout page, continuing to place the same images on the pages, closing the trial layout after another arrangement is created, comparing, selecting and determining are performed again or repeated. A trial layout may be repeated over several times, as illustrated in figure 5, until a desirable layout is displayed to the user; see fig. 5 and 7; paragraphs [0049]-[0055] and [0059]-[0063]);

wherein the instructions for continuing include instructions for defining a packing area and upon determining that at least one digital image from the set that has yet to be packed in the open trial pack will fit in the packing area (i.e. in the system, a given number of images are to be laid out on a certain page layout. The system ensures that this given number is met. If this given number is not met for the layout, the system makes the determination and then looks for the image to be placed on the page layout to fit the given number of images on the page layout. This is an example of the continuing function occurring in the system. If a user is dissatisfied with the current layout, the system may redefine new areas to pack images and place those image in the new areas for packing while making sure that the designated number of images to be placed on the overall layout is still performed; see figs. 5-10; paragraphs [0050]-[0064]):

identifying a largest pre-determined print size of a digital image remaining in the set that will fit in the packing area (i.e. shown in the illustrated prior art image in figure 2 is a template with the identification of a pre-determined print size for each of the digital images to be used on the template. Since this template is used to identify pre-determined print sizes of the pictures to be used, this performs the above feature. Also,

when the system uses the method of automatically placing pictures in the layout, the system chooses, or identifies, a certain pre-determined size on the overall layout to place the picture on the layout to be printed. With this pre-determined space, the images chosen have a pre-determined print size and this size is taken into account when placing the images on the overall layout. The print size of the images is used to assist the system in arranging the images in a more aesthetic manner. The images in the system have a pre-determined print size since these images where taken by different sources (i.e. digital camera or scanner) and these different sources defined the print size for the images and therefore, the pre-determined print size feature is performed. The system may then normalize the pictures to take away the left over white space on the overall layout when these images are placed on the layout. With the system able to manually or automatically choose images to be placed on a layout, a last image that can fit a remaining space on the layout may be chosen. This image may be the largest pre-determined print size that is able to fit that particular space in the image. When looking at figure 14, the cross-hatched space may be used to fit a certain image and the image chosen may be the largest print size available to fit in that area. When the system employs the method of automatically placing pictures in the layout, the system chooses, or identifies, a certain pre-determined size on the overall layout to place the picture on the layout to be printed. In the system, an image may be identified as being much larger or smaller than the rest of the images. The image that is much larger than the others is considered as the image with the largest pre-determined print size. This image is identified when it is chosen to be placed on the layout and the

smallest dimension of the image may be normalized in order to create a spatial balance between itself and other images used in the system; see figs. 1-3; paragraphs [0046]-[0055] and [0057]-[0067]);

if it will fit, packing a digital image of the identified pre-determined print size in a first orientation and continuing the open trial pack as a first child trial pack (i.e. the amount of images placed on a page is determined automatically based on the layout and the amount of space that allows the images to achieve a spatial balance on the specified layout. If the image with a pre-determined print size does not assist in creating a spatial balance or there is not enough room to fit an image on the page, that image is not chosen automatically to be placed on the page. When the first image with a pre-determined print size is chosen, another image with another pre-determined print size is chosen to see if the first images together will create a spatial balance. If the images together create a spatial balance, other images are chosen until the presentation of an image will take the overall page layout out of a spatial balance. Then a score is created to represent the amount of space left on the page layout. The process described above is an example of continuing the trial layout as a child trial pack. The images chosen can be have the smallest or largest pre-determined print size, but the process of normalization is used to assist in creating the spatial balance in the system so that the image sizes do not become a problem to the overall appearance of the layout; see fig. 5, 7 and 11-14; paragraphs [0049]-[0057]); and

if it will fit, packing a digital image of the identified pre-determined print size in a second orientation and continuing the trial pack as a second child trial pack (i.e. during

the process that is illustrated in figure 7, the above process that occurs to the first or prior trial layout occurs to the new or the second trial layout. The new trial layout shows another orientation of the same images, which have the same pre-determined print sizes, being used due to the specifications given by the aspect ratio of the page format. Also, the above process of the continuing of the trial layout as a first trial pack is the same for the second trial layout. The second trial layout is continued as a second child trial pack; see fig. 5 and 7; paragraphs [0049]-[0057] and [0059]-[0063]).

Re claim 35: Simon et al discloses the medium, wherein:

the instructions for packing the digital image of the identified largest pre-determined print size in the first orientation include instructions for packing as many digital images of the identified pre-determined print size as possible in the first orientation and continuing the open trial pack as a first child trial pack (i.e. the amount of images placed on a page is determined automatically based on the layout and the amount of space that allows the images to achieve a spatial balance on the specified layout. If the image does not assist in creating a spatial balance or there is not enough room to fit an image on the page, that image is not chosen automatically to be placed on the page. When the first image with a pre-determined print size is chosen, another image is chosen to see if the image sizes together will create a spatial balance. If the print sizes of the images together create a spatial balance, other images are chosen until the presentation of an image will take the overall page layout out of a spatial balance. Then a score is created to represent the amount of space left on the page

layout. The process described above is an example of continuing the trial layout as a child trial pack. Regarding the largest pre-determined print size being chosen and packed, the images used can be the largest or the smallest in regards to the print size on the layout. The images may be the largest for the area designated on the layout for the image to be placed as shown in figure 17; see fig. 5, 7 and 11-14; paragraphs [0049]-[0055] and [0057]-[0067]); and

the instructions for packing the digital image of the identified largest pre-determined print size in the second orientation include instructions for packing as many digital images of the identified pre-determined print size as possible in the second orientation and continuing the open trial pack as a second child trial pack (i.e. during the process that is illustrated in figure 7, the above process that occurs to the first or prior trial layout occurs to the new or the second trial layout. The new trial layout shows another orientation of the same images, which has the same print sizes, being used due to the specifications given by the aspect ratio of the page format. Also, the above process of the continuing of the trial layout as a first trial pack is the same for the second trial layout. The second trial layout is continued as a second child trial pack; see fig. 5 and 7; paragraphs [0049]-[0055] and [0059]-[0063]).

Re claim 36: Simon et al discloses the medium, wherein the instructions for packing as many digital images of the identified pre-determined print size as possible include instructions for repeatedly packing digital images of the identified pre-determined print size in a given orientation until either another digital image of the identified pre-

determined print size will not fit or no digital image of the identified pre-determined print size remains in the set (i.e. the invention finds images of certain sizes that may fill the trial layout in an efficient manner. This may be a large or small sized image. The images chosen to fill the trial layout shown in figures 8-10 are either the same size or a different size and the feature of packing as many digital images of a certain size as possible in a certain orientation in a trial pack is performed. The images with certain print sizes are placed on the page layout until the images will not fit on the page in order to create a spatial balance. Also, because of the selection criteria listed in paragraph [0050], certain images do not remain since the images do not meet criteria set by the user. The other feature of no digital image of the identified size remains in the set is performed since the identified size may be associated with a time and date and if the image of the above time and date criteria does not remain, the above feature is performed. Regarding the largest pre-determined print size being chosen and packed, the images used can be the largest or the smallest in regards to the print size on the layout. The images may be the largest for the area designated on the layout for the image to be placed as shown in figure 17; see figs. 5-10; paragraphs [0049]-[0055] and [0059]).

Re claim 37: Simon et al discloses the medium of claim 31, wherein the instructions for closing include instructions for, for each open trial pack, closing that pack if no digital image from the set that has yet to be packed in the open trial pack will fit in the packing area (i.e. when performing the process of comparing and accepting a page layout, the

process of continuing to apply images to certain layouts and closing the process of adding images occurs because the layouts have the appropriate amount of images on a page and are repeated until a user decides to accept a displayed layout. The trial layouts are closed when the images selected create a spatial balance and any more images added to the layout may disrupt the spatial balance in the page format chosen. Therefore, when a page layout cannot have any images added to the layout because any page added will not fit in order to keep a spatial balance, then the page layout is closed; see figs. 5 and 7; paragraphs [0049]-[0055]).

Re claim 43: Simon et al discloses a method of organizing digital images on a page, comprising

a trial pack generator (i.e. a trial layout is first determined when a layout of pictures is generated. Then another score layout is generated due to the rearrangement of the same photos in the previous layout. The cost function or white space scores are used to compare the two trial layouts and the scores are in relation to how much white space is left on the overall layout. The trial layout is considered as the trial pack. Although a trial pack generator is not specifically stated, the feature is performed; see figs. 6-10; paragraphs [0051]-[0061]);

and a pack selector (i.e. in the system, depending on the score of the layout, a user or the system can selector a trial pack with the image packed in the trial pack. This performs the feature of a pack selector; see figs. 5-10; paragraphs [0049]-[0064]) wherein:

the pack generator is operable to:

define a packing areas (i.e. when the format of a page is selected in step 110, this is analogous to defining a packing area. In this step, the height and width of the page is specified in order to define where and within a format the images are to be placed on the page. Once an image is placed, the system has to determine which section in the image area should be used to place the next image. In the prior art section mentioned, figure 2 is described to define packing areas; see figs. 2, 5 and 6; paragraph [0049] and [0050]);

to open a trial pack as an empty page (i.e. figure 6 is an example of an empty trial layout. This shows a view of the page in which the pictures of figure 3 will be placed; see fig. 3 and 6; paragraphs [0038] and [0050]);

using a defined packing areas, to repeatedly continue, if possible, each open trial pack (i.e. the selection of the images placed on the trial layout are automatically selected based on the width, height or aspect ratio of the page. With the images chosen automatically, the images are continually placed on the page to fit the format chosen and normalizing of the images also takes place. The normalizing ensures that the images are distanced from one another in a manner to create a spatial balance between the pictures; see fig. 5; paragraphs [0049]-[0055]) and to close each open trial pack that cannot be continued until no trial pack remains open (i.e. once normalizing takes place, the images are placed to create a spatial balance. Once this is shown to the user for acceptance, the user has a choice to accept the layout or go through the page layout process again until an acceptable page layout is obtained. The layout

process is completed or closed once the user is displayed the new layout. When comparing the trial packs, the trial pack that is being arranged is opened until is it closed to be compared to the prior trial pack. This is an example of closing open trial packs that cannot have any more images added or rearranged so that the closed trial packs can be compared; see fig. 5; paragraphs [0049]-[0055]); and

wherein the pack generator is operable to continue each open trial pack (i.e. in the system, a given number of images are to be laid out on a certain page layout. The system ensures that this given number is met. If this given number is not met for the layout, the system makes the determination and then looks for the image to be placed on the page layout to fit the given number of images on the page layout. This is an example of the continuing function occurring in the system. If a user is dissatisfied with the current layout, the system may redefine new areas to pack images and place those image in the new areas for packing while making sure that the designated number of images to be placed on the overall layout is still performed; see figs. 5-10; paragraphs [0050]-[0064]) by

identifying from the set a largest pre-determined print size of a digital image remaining in the set that will fit in the packing area (i.e. shown in the illustrated prior art image in figure 2 is a template with the identification of a pre-determined print size for each of the digital images to be used on the template. Since this template is used to identify pre-determined print sizes of the pictures to be used, this performs the above feature. Also, when the system employs the method of automatically placing pictures in the layout, the system chooses, or identifies, a certain pre-determined size on the

overall layout to place the picture on the layout to be printed. With this pre-determined space, the images chosen have a pre-determined print size and this size is taken into account when placing the images on the overall layout. The print size of the images is used to assist the system in arranging the images in a more aesthetic manner. The images in the system have a pre-determined print size since these images where taken by different sources (i.e. digital camera or scanner) and these different sources define the print size for the images and therefore, the pre-determined print size feature is performed. The system may then normalize the pictures to take away the left over white space on the overall layout when these images are placed on the layout. With the system able to manually or automatically choose images to be placed on a layout, a last image that can fit a remaining space on the layout may be chosen. This image may be the largest pre-determined print size that is able to fit that particular space in the image. When looking at figure 14, the cross-hatched space may be used to fit a certain image and the image chosen may be the largest print size available to fit in that area. When the system employs the method of automatically placing pictures in the layout, the system chooses, or identifies, a certain pre-determined size on the overall layout to place the picture on the layout to be printed. In the system, an image may be identified as being much larger or smaller than the rest of the images. The image that is much larger than the others is considered as the image with the largest pre-determined print size. This image is identified when it is chosen to be placed on the layout and the smallest dimension of the image may be normalized in order to create a spatial balance

between itself and other images used in the system; see figs. 1-3; paragraphs [0046]-[0055] and [0057]-[0067]);

if it will fit, packing a digital image of the identified largest pre-determined print size in a first orientation in a packing area and continuing the open trial pack as a first child trial pack (i.e. the amount of images placed on a page is determined automatically based on the layout and the amount of space that allows the images to achieve a spatial balance on the specified layout. If the image with a pre-determined print size does not assist in creating a spatial balance or there is not enough room to fit an image on the page, that image is not chosen automatically to be placed on the page. When the first image with a pre-determined print size is chosen, another image with another pre-determined print size is chosen to see if the first images together will create a spatial balance. If the images together create a spatial balance, other images are chosen until the presentation of an image will take the overall page layout out of a spatial balance. Then a score is created to represent the amount of space left on the page layout. The process described above is an example of continuing the trial layout as a child trial pack. The images chosen can be have the smallest or largest pre-determined print size, but the process of normalization is used to assist in creating the spatial balance in the system so that the image sizes do not become a problem to the overall appearance of the layout; see fig. 5, 7 and 11-14; paragraphs [0049]-[0057]); and

if it will fit, packing a digital image of the identified largest pre-determined print size in a second orientation and continuing the trial pack as a second child trial pack

(i.e. during the process that is illustrated in figure 7, the above process that occurs to the first or prior trial layout occurs to the new or the second trial layout. The new trial layout shows another orientation of the same images, which have the same pre-determined print sizes, being used due to the specifications given by the aspect ratio of the page format. Also, the above process of the continuing of the trial layout as a first trial pack is the same for the second trial layout. The second trial layout is continued as a second child trial pack; see fig. 5 and 7; paragraphs [0049]-[0057] and [0059]-[0063]);

the pack selector is operable to compare closed trial packs generated by the pack generator, to select a trial pack based upon the comparison (i.e. based on the comparison of the trial layouts and their associated scores, the trial layout with the lowest cost function or white space score is chosen automatically. Although a pack selector is not specifically stated, the feature is performed. Also, with the layout having the ability to be chosen manually, the feature of a pack selector is believed to be performed by the manual function of the invention; see figs. 6-10; paragraphs [0057]-[0061]); and,

until all digital images from the set are used in one of one or more selected trial packs, to direct the pack generator to generate new trial packs for any digital images not used in a selected trial pack (i.e. in step 100, the digital images to be chosen are recognized to be in a database that stores the pictures. In step 120, images that are determined to be on the database that are not packed on a page layout, are selected to be placed on a page. This process can be performed manually or automatically. The images that are chosen in step 120 are images that are not placed on the page layout

before that step has occurred. Also in figure 7, other trial layouts are generated and images that are not in the presently generated layout are then placed on that layout to compare the current layout to a previous layout; see fig. 5 and 7; paragraphs [0049]-[0063]).

Re claim 46: Simon et al discloses the system of claim 43, wherein the packager is operable to, for each open trial pack, close that trial pack if no digital image from the set that has yet to be packed in the open trial pack will fit in the packing area (i.e. when performing the process of comparing and accepting a page layout, the process of continuing to apply images to certain layouts and closing the process of adding images occurs because the layouts have the appropriate amount of images on a page and are repeated until a user decides to accept a displayed layout. The trial layouts are closed when the images selected create a spatial balance and any more images added to the layout may disrupt the spatial balance in the page format chosen. Therefore, when a page layout cannot have any images added to the layout because any page added will not fit in order to keep a spatial balance, then the page layout is closed; see figs. 5 and 7; paragraphs [0049]-[0055]).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 18, 19 and 38, 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simon et al in view of Shields (US Pub No 2003/0163786).

Re claim 18: The teachings of Simon et al are disclosed above.

However, Simon et al fails to teach the method, wherein defining a packing area comprises identifying a geometry of a packed space and defining a packing area according the geometry of the packed space.

However, this is well known in the art as evidenced by Shields. Shields disclose defining a packing area comprises identifying a geometry of a packed space (i.e. like Simon, Shields discloses rearranging images on a page to mitigate wasted space (same field of endeavor). However, the system checks to see if a region of sufficient size exists for the placement of an image. Any type of possible shape that is represented in figure 2 is recognized to see if the next available image can fit in the shape shown; see fig. 2; paragraphs [0012]-[0015]) and defining a packing area according the geometry of the packed space (i.e. the area is then designated as an area to pack images once an appropriate image of the defined size is found; see fig. 2; paragraphs [0012]-[0015]).

Therefore, in view of Shields, it would have been obvious to one of ordinary skill at the time the invention was made to defining a packing area comprises identifying a geometry of a packed space and defining a packing area according the geometry of the

packed space in order to check to see if a region is a sufficient size for an image to be placed (as stated in Shields paragraph [0014]).

Re claim 19: The teachings of Simon et al are disclosed above.

Simon et al teaches the method, wherein defining a packing area comprises identifying a packed space as rectangular (i.e. when looking at figure 2, it is clear that areas that will be packed with an image are or designated as rectangular; see fig. 2; paragraph [0048]), identifying left over spaces located diagonally, vertically, and horizontally relative to the packed space (i.e. when looking at figure 12, element 62 has left over spaces that are horizontal (273) and vertical (275) in relation to the packed space. Although identifying spaces diagonally is not specifically stated, it is performed by the device. When performing horizontal sorting, the packed space finds the next horizontal space and begins to pack that space with an image. If the next image that is chosen performs vertical sorting on the now second image process, it will identify the diagonal left over space of the first image that was processed horizontally in the beginning of whole horizontal process. Therefore, the feature of identifying the diagonal left over space is performed; see fig. 12 and 16; paragraphs [0063]-[0067]) and defining a second packing area as the remaining horizontal or vertical space (i.e. with horizontal and vertical sorting, a packing area or layout area can be defined as a horizontal or vertical space when performing the sorting process; see fig. 12 and 16; paragraphs [0063]-[0067]).

However, Simon et al fails to teach combining the diagonal space with either the vertical space or the horizontal space creating a combined space having a maximized small dimension, and defining a first packing area as the combined space.

However, this is well known in the art as evidenced by Shields. Shields discloses combining the diagonal space with either the vertical space or the horizontal space creating a combined space having a maximized small dimension (i.e. looking at figure 2, the space that is left over after placing an image into a certain space is may be combined with another space, depending on the image size the system had waiting to place on the overall image. Any region of left over space after placing a plurality of images can be combined with other pieces of free space left over to create a region to fit an appropriate sized image; see fig. 2; paragraphs [0012]-[0015]), and defining a first packing area as the combined space (i.e. depending on how the images are oriented, space that is left over after the first batch of images are placed is combined to form spaces that may be used to have smaller images placed on the combined spaces. In the invention, the space is used efficiently by not only placing images in decreasing height in the overall image, but also to use the spaces left over to place even smaller images. Although it does not specifically say defining a first packing area as a combined space, the feature is performed since spaces between the placed images are combined to form a region in which images can be placed; see fig. 2; paragraphs [0012]-[0015]).

Therefore, in view of Shields, it would have been obvious to one of ordinary skill at the time the invention was made to combining the diagonal space with either the

vertical space or the horizontal space creating a combined space having a maximized small dimension, and defining a first packing area as the combined space in order to check if the next image can be located in one of the openings between the other images (as stated in Shields paragraph [0013]).

Re claim 38: The teachings of Simon et al are disclosed above.

However, Simon et al fails to teach the method, wherein the instructions for defining a packing area include instructions for identifying a geometry of a packed space and defining a packing area according the geometry of the packed space.

However, this is well known in the art as evidenced by Shields. Shields disclose the instructions for defining a packing area include instructions for identifying a geometry of a packed space (i.e. the system checks to see if a region of sufficient size exists for the placement of an image. Any type of possible shape that is represented in figure 2 is recognized to see if the next available image can fit in the shape shown. Although instructions are not specifically stated, it is clear that the system performs the feature of checking for a certain size of a region to place another image. Also, since a computer or some program performs the function above, instructions have to be given to such a program to perform the above feature; see fig. 2; paragraphs [0012]-[0015]) and defining a packing area according the geometry of the packed space (i.e. the area is then designated as an area to pack images once an appropriate image of the defined size is found; see fig. 2; paragraphs [0012]-[0015]).

Therefore, in view of Shields, it would have been obvious to one of ordinary skill at the time the invention was made to have instructions for defining a packing area include instructions for identifying a geometry of a packed space and defining a packing area according the geometry of the packed space in order to check to see if a region is a sufficient size for an image to be placed (as stated in Shields paragraph [0014]).

Re claim 39: The teachings of Simon et al are disclosed above.

Simon et al teaches the method, wherein the instructions for defining a packing area include instructions for identifying a packed space as rectangular (i.e. when looking at figure 2, it is clear that areas that will be packed with an image are or designated as rectangular; see fig. 2; paragraph [0048]), identifying left over spaces located diagonally, vertically, and horizontally relative to the packed space (i.e. when looking at figure 12, element 62 has left over spaces that are horizontal (273) and vertical (275) in relation to the packed space. Although identifying spaces diagonally is not specifically stated, it is performed by the device. When performing horizontal sorting, the packed space finds the next horizontal space and begins to pack that space with an image. If the next image that is chosen performs vertical sorting on the now second image process, it will identify the diagonal left over space of the first image that was processed horizontally in the beginning of whole horizontal process. Therefore, the feature of identifying the diagonal left over space is performed; see fig. 12 and 16; paragraphs [0063]-[0067]) and defining a second packing area as the remaining horizontal or vertical space (i.e. with horizontal and vertical sorting, a packing area or layout area can

be defined as a horizontal or vertical space when performing the sorting process; see fig. 12 and 16; paragraphs [0063]-[0067]).

However, Simon et al fails to teach combining the diagonal space with either the vertical space or the horizontal space creating a combined space having a maximized small dimension, and defining a first packing area as the combined space.

However, this is well known in the art as evidenced by Shields. Shields discloses combining the diagonal space with either the vertical space or the horizontal space creating a combined space having a maximized small dimension (i.e. looking at figure 2, the space that is left over after placing an image into a certain space is may be combined with another space, depending on the image size the system had waiting to place on the overall image. Any region of left over space after placing a plurality of images can be combined with other pieces of free space left over to create a region to fit an appropriate sized image; see fig. 2; paragraphs [0012]-[0015]), and defining a first packing area as the combined space (i.e. depending on how the images are oriented, space that is left over after the first batch of images are placed is combined to form spaces that may be used to have smaller images placed on the combined spaces. In the invention, the space is used efficiently by not only placing images in decreasing height in the overall image, but also to use the spaces left over to place even smaller images. Although it does not specifically say defining a first packing area as a combined space, the feature is performed since spaces between the placed images are combined to form a region in which images can be placed; see fig. 2; paragraphs [0012]-[0015]).

Therefore, in view of Shields, it would have been obvious to one of ordinary skill at the time the invention was made to combine the diagonal space with either the vertical space or the horizontal space creating a combined space having a maximized small dimension, and defining a first packing area as the combined space in order to check if the next image can be located in one of the openings between the other images (as stated in Shields paragraph [0013]).

7. Claims 20 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simon et al in view of Doi et al (US Pat No 6208360).

Re claim 20: The teachings of Simon et al are disclosed above.

Simon et al teaches the method, wherein identifying a packing area comprises identifying a packed space (i.e. in the layout of the images in figure 5, the area where the image will be placed in identified either automatically or manually; see fig. 5; paragraphs [0049]-[0055]), maximizing a jagged space (i.e. shown in figures 8-10 are examples of the system maximizing the use of spaces that may appeared to be jagged or not completely rectangular. Through normalizing and scaling, the jagged spaces in figure 8 are maximized by the previous stated methods and is illustrated in figures 9-12; see figs. 8-12; paragraphs [0049]-[0055]), identifying remaining spaces that are located vertically and horizontally relative to the packed space (i.e. in fig. 16, the blank or white spaces located horizontally and vertically of the packed spaces are identified; see fig. 12 and 16; paragraphs [0063]-[0065]), defining a first packing area as the maximized

jagged space (i.e. in figure 14, a crosshatched region is present. This region with the surrounding blank region around the crosshatched region is considered as a jagged space. The user is utilizing this space in this arrangement, but can multiple different arrangements. However, this can be considered as the first packing area as the maximized jagged space since it is being used to pack some type of data and the crosshatched region is a large region being used in figure 14; see fig. 14; paragraph [0067]), defining a second packing area as the left over vertical space (i.e. in using the method of figure 16, an area is defined as the vertical white space or the space above or below the packed space; see fig. 12 and 16; paragraphs [0063]-[0065]), and defining a third packing are as the left over horizontal space (i.e. in using the method of figure 16, an area is defined as the horizontal white space or the space to the left or right of the packed space; see fig. 12 and 16; paragraphs [0063]-[0065]).

However, Simon et al fails to teach identifying a packed space as irregular.

However, this is well known in the art as evidenced by Doi '360. Doi '360 discloses identifying a packed space as irregular (i.e. the Doi system, like the Simon system, involves user input to manipulate an overall image in a desired manner (same field of endeavor). However, in the Doi system, when viewing a 3D image, the irregularity of the shape is recognized by a distance measuring device; see col. 3, lines 52-58).

Therefore, in view of Doi '360, it would have been obvious to one of ordinary skill at the time the invention was made to identifying a packed space as irregular

incorporated in the device of Simon et al in order to recognize the irregularity of an image (as stated in Doi '360 col. 3, lines 52-58).

Re claim 40: The teachings of Simon et al are disclosed above.

Simon et al teaches the method, wherein the instructions for defining a packing area include instructions for identifying a packed space (i.e. in the layout of the images in figure 5, the area where the image will be placed in identified either automatically or manually; see fig. 5; paragraphs [0049]-[0055]), maximizing a jagged space (i.e. shown in figures 8-10 are examples of the system maximizing the use of spaces that may appeared to be jagged or not completely rectangular. Through normalizing and scaling, the jagged spaces in figure 8 are maximized by the previous stated methods and is illustrated in figures 9-12; see figs. 8-12; paragraphs [0049]-[0055]), identifying remaining spaces that are located vertically and horizontally relative to the packed space (i.e. in fig. 16, the blank or white spaces located horizontally and vertically of the packed spaces are identified; see fig. 12 and 16; paragraphs [0063]-[0065]), defining a first packing area as the maximized jagged space (i.e. in figure 14, a crosshatched region is present. This region with the surrounding blank region around the crosshatched region is considered as a jagged space. The user is utilizing this space in this arrangement, but can multiple different arrangements. However, this can be considered as the first packing area as the maximized jagged space since it is being used to pack some type of data and the crosshatched region is a large region being used in figure 14; see fig. 14; paragraph [0067]), defining a second packing area as the

left over vertical space (i.e. in using the method of figure 16, an area is defined as the vertical white space or the space above or below the packed space; see fig. 12 and 16; paragraphs [0063]-[0065]), and defining a third packing are as the left over horizontal space (i.e. in using the method of figure 16, an area is defined as the horizontal white space or the space to the left or right of the packed space; see fig. 12 and 16; paragraphs [0063]-[0065]).

However, Simon et al fails to teach identifying a packed space as irregular.

However, this is well known in the art as evidenced by Doi '360. Doi '360 discloses identifying a packed space as irregular (i.e. when viewing a 3D image, the irregularity of the shape is recognized by a distance measuring device; see col. 3, lines 52-58).

Therefore, in view of Doi '360, it would have been obvious to one of ordinary skill at the time the invention was made to identifying a packed space as irregular incorporated in the device of Simon et al in order to recognize the irregularity of an image (as stated in Doi '360 col. 3, lines 52-58).

(10) Response to Argument

8. Appellant's arguments filed on 1/2/2008 have been fully considered but they are not persuasive.

On page 10 of the brief, the Appellant alleged US Patent Publication of Simon does not teach or suggest a method and computer readable medium having instructions that include "*identifying a pre-determined print size for each of the digital images in the set*" and *"identifying a largest of the pre-determined print sizes"*.

In response to Appellant's arguments that the reference of Simon does not fulfill the claim limitations listed above, the Examiner would like to pose a question that gives a basis to the Examiner's response. First, within the claim language, what makes the print size of each identified digital image pre-determined? With the above question posed, the Examiner would like to note that although the claims are interpreted in light of the specification, the Examiner cannot read the limitations from the specification into the claims.

The first feature in claims 3, 6, 11, 23, 26 and 31 stating "*identifying a pre-determined print size for each of the digital images in the set"* is taught by Simon in several parts of the reference. Given that the claims are interpreted in the broadest and reasonable manner, the term "print size" is broadly interpreted as the size of the image that will be printed once placed on a page. In the system of Simon '375, it is understood that the digital images in the system have a pre-determined printing size. In the system, the size of the images placed on the layout can be considered as the pre-determined print size since the image will reflect a respective size determined before being placed on a page layout when printed. Another example of a pre-determined print size is described in the prior art system described within the reference of Simon. In paragraph [0004], it is described that the Microsoft PictureIt™ software is used to scale and crop images that are to be inserted into album pages. In the prior art system, the user defines a size of images by scaling and cropping, and then places the image on the album in a manner desired by the user. Here, with the images modified before arranging images more efficiently on the album page, the user adjusts the images to a

certain size that will be reflected when printed. This is an example of a user performing the feature of adjusting the size of the image that will be printed, or identifying a pre-determined print size.

A very basic difference between the prior art system mentioned in Simon and Simon's invention is that the invention of Simon performs the same prior art system with a program and the program allows the user to choose different layouts of the same images that are adjusted for size and arrangement on the page layout. The Simon invention is more efficient since it allows for different arrangements of images in a small amount of time and is easier to use with more tools at the user's disposal (see the scoring of the layout in paragraphs [0051]-[0062]; also see paragraphs [0004] and [0005] for prior art reference).

Both of the prior art system in Simon and Simon's invention read on Appellant's claim feature of "*identifying a pre-determined print size for each of the digital images in the set*" since both identify a size of an image that is to be printed and the size of the image has been determined before being placed on a page layout in an efficient manner. The invention of Simon shows the images that have a size that is already determined before being placed on a page to be printed in figure 3 and these images may be adjusted through normalization to fit more efficiently on a page layout that is shown in figures 8-10 (see paragraphs [0046]-[0063]). Also, the sizes of the images may be determined before the printing function. With the size of the images being identified (i.e. performing the step of identifying; see figure 5), adjusted through normalization and set on the page layout in an efficient manner before printing (i.e.

performing the feature of determining print size before printing, or pre-determined print size; see figure 5), this is another example of the claim feature *identifying a pre-determined print size for each of the digital images in the set.*

Because of the broad nature of the claim language, several interpretations were expressed on the claim limitations and the Examiner believes that this claim feature is performed by the reference.

Regarding the second feature in claims 3, 6, 11, 23, 26, 31 and 43 stating "*identifying a largest of the pre-determined print sizes,*" the Examiner believes this feature is also disclosed by Simon.

In paragraph [0050], Simon clearly states that the purpose of normalization is to ensure that one image does not spatially dominate the page layout. In order for this situation to occur, one image has to be larger or smaller than the rest of the images on the page layout. In order for normalization to occur, the largest image placed on the page layout has to be identified in order to know if this image is spatially dominating the page layout. With the images reflecting a size to be printed when placed on the page layout, or pre-determined print size, the image with the largest height and width is identified. The normalization procedure tells the system to find the smallest dimension of the largest image and adjust all other images to that smallest dimension (see paragraphs [0049]-[0055]). This can occur more than once if the user decides to use the system where different scored layouts are compared to one another, as shown in figure 7. With the system having to repeat the process of scaling different images and normalizing the images in order for the images to fit efficiently on the page layout, the

system constantly identifies the largest or smallest images to scale them appropriately. Examples of continued scaling of images are shown in figures 9 and 10 (see paragraphs [0057]-[0063]). These images are further scaled or normalized in figure 7, which is a reflection of step 140 in figure 5, before the printing, storing or transmitting operation is performed. Because of the normalization occurring before printing and within normalization, the largest size of the image to be printed is identified, the feature of identifying the largest of the image size to be printed is performed. The identified image size to be printed is equivalent to a pre-determined print size because the image size to be printed is determined before the printing operation and since the image size to be printed is determined before a printing operation or some other event, this performs the above feature of being a pre-determined print size (see fig. 5; paragraphs [0050]-[0063]). With the broadest reasonable interpretation of pre-determined print size, other interpretations of the Simon reference can be applied to the claim language.

Lastly, on page 9 and 10, the Appellant makes two remarks that the Examiner would like to put on record. On page 9 of the brief, the Appellant states, "The print size is not determined until after the images are "normalized." This is in the 4th paragraph of the brief on page 9. Also on page 10 the Appellant states in the second paragraph, "Furthermore, the largest print size cannot be determined until after the images are normalized." See Simon paragraph [0050]." With these two remarks stated in the brief, it implies to the Examiner that despite the Appellant's remarks that the Examiner is misconstruing the terms "print size" versus "original image size", the Appellant states that the teaching of print size is in fact in the Simon reference in paragraph [0050].

Although the Appellant does not go into further detail about this teaching, the Examiner would like to point out that the Appellant believes that the print size is, in fact, determined in the system of Simon.

Regarding the 101 rejections, the Examiner would also like to add that the specification and claims do not state explicitly that a computer readable medium is only comprised of non-transitory subject matter. Due to the recent memo on subject matter eligibility of computer readable media, the claimed computer readable medium in claims 23, 26 and 31 is considered as non-statutory.

Therefore, in light of the above arguments, the Examiner maintains that the reference of Simon does in fact anticipate the present claimed invention for at least the reasons stated above.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the Examiner in the Related Appeals and Interferences section of this Examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/CHAD DICKERSON/

_____

Chad Dickerson

Junior Examiner (2625)

Conferees:

/Twyler L. Haskins/

Supervisory Patent Examiner, Art Unit 2625

_____

Twyler Haskins (SPE 2625)

/King Y. Poon/

Supervisory Patent Examiner, Art Unit 2625

_____

King Poon (SPE 2625)